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Your Reference: HL74401/003/ASG
 Application No: GB 0310785.1

The Patent Office
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12 June 2003

Dear Sirs

**Patents Act 1977:
 Combined Search and Examination Report under Sections 17 and 18(3)**

Latest date for reply: 21 July 2003

I enclose two copies of my search and examination report.

By the above date you should either file amendments to meet the objections in the report or make observations on them. If you do not, the application may be refused.

Publication

I estimate that, provided you have met all formal requirements, preparations for publication of your application will be completed soon after 15 July 2003. You will then receive a letter informing you of completion and telling you the publication number and date of publication.

Amendment/withdrawal

If you wish to file amended claims for inclusion with the published application, or to withdraw the application to prevent publication, you must do so before the preparations for publication are completed. No reminder will be issued. If you write to the Office less than 3 weeks before the above completion date, please mark your letter prominently: "URGENT - PUBLICATION IMMINENT".

¹Use of E-mail: Please note that e-mail should be used for correspondence only.



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You should also note that the normal, unextended period allowed for complying fully with the requirements of the Act will end on 28 August 2003. However, if you need extra time to settle any remaining objections you are entitled to extend that period by one month by filing Patents Form 52/77 and fee.

Yours faithfully


D.B. Pepper
Examiner



Application No: GB 0310785.1
 Claims searched: 1

Examiner: D.B. Pepper
 Date of search: 11 June 2003

Patents Act 1977 : Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
		None

Categories:

X Document indicating lack of novelty or inventive step	A Document indicating technological background and/or state of the art.
Y Document indicating lack of inventive step if combined with one or more other documents of same category.	P Document published on or after the declared priority date but before the filing date of this invention.
& Member of the same patent family	E Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO, & US patent documents classified in the following areas of the UKC⁶:

ElF

Worldwide search of patent documents classified in the following areas of the IPC⁷:

E21B

The following online and other databases have been used in the preparation of this search report:

WPI, EPODOC, JAPIO



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Patents Act 1977

Combined Search and Examination Report under Sections 17 & 18(3)

Basis of the examination

1. My examination has taken account of the amendments filed with your agent's letter of 28 May 2003.

Allowance of the divisional date

2. Your request that this application be treated as having been filed on 23 February 2000, which is the same date of filing as your earlier application number GB 0004285.3, has been allowed.

Clarity and consistency

3. Claim 1 is not clear because it would appear from line 1 of the claim that the apparatus is suitable for use with a housing whereas, from the remainder of the claim, it would appear that the housing forms part of the apparatus.

4. The references in claim 1 to "the valve chambers" are inconsistent with the first reference to "one or more valve chambers".

5. Inconsistencies between claim 1, the title and the description on pages 2-7,10,11 and 78-88 should be removed. Also the detailed description should be amended to clearly indicate which figures lie within the scope of the invention.

Non-metric units

6. As agreed in a telephone conversation with your agent, a single equivalent metric value for each of the repeating non-metric values mentioned throughout your specification may be included at the start of the detailed description rather than alongside each of the non-metric values.

Other

7. The US patent application serial numbers should be inserted in the specification on pages 13-16,39,40,43,70 and 71.



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[Examination Report contd.]

Publication

8. Publication of this application is proceeding concurrently.